

AMENDMENTS TO THE SPECIFICATION

On page 1, please delete the section heading Description.

On page 1, please amend the TITLE to read as follows:

“PASSIVE COOLING AND ARRESTING DEVICE FOR THE MOLTEN
CORE MATERIAL”

Please replace the section heading at page 3, line 27 of the Amended Sheets with the following rewritten section heading:

-- [Disclosure]Summary of the Invention --

On page 2, please delete the section heading Technical Problem before Paragraph [14].

On page 2, please delete the section heading Technical Solution before Paragraph [15].

Please replace the section heading beginning at page 5, line 25 of the Amended Sheets with the following rewritten section heading:

-- [Description of Drawings]BRIEF DESCRIPTION OF THE DRAWINGS --

On page 4, please replace the section heading before Paragraph [31] with the following rewritten section heading:

-- ~~Best Mode for Carrying Out the Invention~~ DETAILED DESCRIPTION OF THE INVENTION --

Please replace the paragraphs beginning at page 11, lines 4 – 12 of the Amended Sheets with the following rewritten paragraphs:

-- Regarding the gravel layer 22, it is formed by filling refractory gravels 22a between the vessels 21 and 23, and thus can be easily ~~assembled according~~formed to conform ~~to the shapesshape~~ of the compartment ~~due to the flowable nature of the refractory gravels~~ 22a.

The gravel layer 22 enables the cooling ~~wager/inert~~water/inert gas mixture to be uniformly injected into the molten core material retention tank 20. Also, the gravel layer 22 can store therein a predetermined amount of cooling water, thereby making it possible to more effectively ~~cooling~~cool the high-temperature molten core material. --

Please replace the paragraphs beginning at page 14, line 11 to page 15, line 3 of the Amended Sheets with the following rewritten paragraphs:

-- As stated above, the present invention can passively supply the cooling water/inert gas mixture during the primary cooling process thereby to greatly reduce the threat of a steam explosion, which may be caused by the rapid reaction between the high-temperature molten core material and the cooling water. Also, the present invention makes it possible to effectively remove the decay heat of the molten core material by passively recycling the condensed water.

Further, the present invention makes it possible to separately make and assembly the molten core material retention tank suitably according to the size of the reactor cavity, and to install the molten core material retention tank in the reactor cavity even for thean existing nuclear reactor.

AsBecause the sacrificial and water tight layer is cemented on the protection vessel 23, inadvertent opening the valves 31, 41, and 41a during the power operation would not result in a flooding of the reactor cavity. So, any mis-operation of this invention would not have interference duringinterfere with the normal power operation of the nuclear reactor. So, it supportsAccordingly, this feature fully supports the passive nature of the invention.

Although the preferred embodiments of the present invention have been disclosed for illustrative purpose, those skilled in the art will appreciate that various modifications, additions and substitutions can be made without departing from the scope and spirit of the invention as defined in the accompanying claims.

[Industrial Applicability] --

Please replace the paragraph beginning at page 15, line 24 of the Amended Sheets with the following rewritten paragraph:

-- As the protection vessel with a layer of sacrificial material provides water tightness and structural integrity, any mis-operation of this invention would not have interference duringtheinterfere with the normal power operation of the nuclear reactor. --